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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,022	12/03/2001	Roland Aubauer	11270-327	3055

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EXAMINER

GRIER, LAURA A

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,022

Applicant(s)

AUBAUER ET AL.

Examiner

Laura A. Grier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) ^{to PA} ~~36-68~~ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 63 and 64 is/are allowed.
- 6) ☒ Claim(s) 36, 37, 44-46, 49-62 and 65-70 is/are rejected.
- 7) ☒ Claim(s) 38-43, 47, 48 and 52 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/27/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the second microphone is arranged at a predetermined angle to the axis and/or at a predetermined offset distance from the major axis", must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 44-46, 54-62, 65-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 44 recites the limitation "where $n \in N$ " in limitation (a). There is insufficient antecedent basis for this limitation in the claim.

Regarding **claims 45-46**, they are dependent upon independent claim 44 and thus rejected accordingly.

Regarding **claim 54**, limitation (e) refers to signal levels of the unfiltered electrical signals. The claim language is indefinite because the two microphones previously recited in limitation (a) refers to each microphone consisting of a pair (or two microphones), and later limitation (c) refers the two microphones being filtered. Thus, for the purpose of examination, the limitation regarding the unfiltered signal is unclear to the examiner.

Regarding **claims 55-57 and 65-70**, they are dependent upon independent claim 54 and thus rejected accordingly.

Claim 58 recites the limitation "the respective signal level" in limitation (e). There is insufficient antecedent basis for this limitation in the claim.

Regarding **claim 58**, limitation (e) the respective signal". The claim language is indefinite because the claim language fails to identify which microphone or what the

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respective signal related. Thus, for the purpose of examination, the limitation (e) is unclear to the examiner.

Regarding claim 59, it is dependent upon independent claim 58 and thus rejected accordingly.

Claim 60 recites the limitation "where $n \in N$ " in limitation (c). There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 61-62, it is dependent upon independent claim 60 and thus rejected accordingly.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 36, 49, 51, 58 and 60 are rejected under 35 U.S.C. 102(e) as being anticipated by Thompson, U. S. Patent No. 6654468.

Regarding **claim 36**, Thompson discloses an apparatus and method for matching the response of microphones in magnitude and phase. Thompson discloses a front and rear microphone, which indicates and 1st and 2nd microphone and arranged in respect to a major axis, therein; and the signals of the two microphones are processed in respect

to factors such as gain and frequency/phase (col. - and figures 4 and 6), which indicates processing the 1st and 2nd signal, therein as claimed.

Regarding **claim 49**, Thompson discloses everything claimed as applied above (see claim 36). Thompson discloses are directional microphones.

Regarding **claim 51**, Thompson discloses everything claimed as applied above (see claim 36). Thompson disclosure (figure 4 and 6) provides the microphones positioned at 0 degree to the major axis.

Regarding claims 58 and 60, Thompson discloses an apparatus and method for matching the response of microphones in magnitude and phase. Thompson discloses a front and rear microphone, which indicates and 1st and 2nd microphone and arranged in respect to a major axis, therein; and the signals of the two microphones are processed in respect to factors such as gain and frequency/phase (col. - and figures 4 and 6), which indicates processing the 1st and 2nd signal, therein; 2 sets of filters, each set of a respective frequency, wherein the 1st and 2nd microphone signals are processed accordingly to each; subtractors (16) which indicates a first filter as claimed.

Claims 36-37, 49, 51, 58 and 60 are rejected under 35 U.S.C. 102(e) as being anticipated by Soede et al., Pub. No., 20050169487.

Regarding **claim 36**, Soede et al. (herein, Soede), discloses a 1st and 2nd microphone (paragraph 0056-0057, and 0085 and figure 5 and 16a), which indicates arranging and processing a 1st and 2nd microphones, therein as claimed.

Regarding **claim 37**, Soede discloses everything claimed as applied above (see claim 36). Soede further discloses more microphones coupled to the microphone (paragraph 0056-0057, and 0085 and figure 5 and 16a), which indicates arranging and processing a 1st and 2nd microphones, therein as claimed.

Regarding **claim 49**, Soede discloses everything claimed as applied above (see claim 36). Soede discloses are directional microphones.

Regarding **claim 51**, Soede discloses everything claimed as applied above (see claim 36). Soede disclosure (figures 5 and 16a) provides the microphones positioned at 0 degree to the major axis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 50 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soede.

Regarding **claim 50**, Soede discloses everything claimed as applied above (see claim 36). However, Soede fails to disclose a three ball microphone arrangement. Various arrangements of a plurality of microphones was well known in the art. Thus, it would have been obvious to one of the ordinary skill in the art at the invention was made to modify the invention of Soede by implementing an arrangement of three ball

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microphones for the purpose of optimizing the performance of a plurality of microphones.

Regarding **claim 53**, Soede discloses everything claimed as applied above (see claim 36). However, Soede fails to disclose arranged on an acoustic boundary surface. Efficient acoustic characteristics are common considerations and factors considered with providing a structure for a microphone or a mounting a microphone. Thus, it would have been obvious to one of the ordinary skill in the art at the invention was made to modify the invention of Soede by implementing an acoustic boundary surface for the purpose of ensuring adequate microphone performance and output of the signal.

Claims 63-64 are allowed.

Claims 38-43, 47-48, and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A. Grier whose telephone number is (571) 272-7518. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Laura A Grier
Primary Examiner
Art Unit 2644
October 3, 2005